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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/092,779

02/11/2002

Henry Owen

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12/21/2005

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EXAMINER

SHEW, JOHN

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/092,779

Applicant(s)

OWEN ET AL.

Examiner

John L. Shew

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-17, 19 is/are rejected.
- 7) ☒ Claim(s) 14 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02112002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

Page 2 paragraph [0004] line 5 cites "also and" should be "also an".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Frame structures are descriptive material per se and are not statutory because they are neither physical "things" nor statutory processes. Further, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101.

Such claimed structures do not define any structural and functional interrelationships between the frame structure and other claimed aspects of the invention which permit the frame structure's functionality to be realized. The language of the claim raises a question as to whether the claim is directed merely an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (Patent No. 5886748) in view of Malone, Sr. (Patent No. US 6181497).

Claim 1, Lee teaches an enhanced frame structure (Figure 2, col. 2 lines 56-61) referenced by the Vestigial Side Band data frame format of a Grand Alliance-High Definition TeleVision, for transmitting and receiving wireless data signals as a plurality of frames (Figure 1, col. 2 lines 4612) referenced by the GA-HDTV receiver wherein the tuner 102 selects a desired channel signal of VSB frames wirelessly via an antenna, comprising an initial frame structure containing at least two fields (Figure 2, col. 2 lines 56-67, col. 3 lines 1-7) referenced by the VSB data frame composed of two fields wherein each field comprises 313 segments of Field Sync + Data + FEC, each of said fields having a field synchronization segment (Figure 2, col. 2 lines 56-67, col. 3 lines 1-7) referenced by the segment 1 Field Sync, followed by a plurality of initial frame structure data segments (Figure 2, col. 2 lines 56-67, col. 3 lines 1-7) referenced by segments 2-313 Data + FEC. Lee does not teach a first modified frame structure having data segments that is less than the initial frame structure data segments.

Malone Sr. teaches a first or more modified frame structure containing at least two fields (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25) referenced by the field "Sync Byte 1 + Data1 Subfield + VFO Field 2" and field "Sync Byte 2 + Data2 Subfield", each of said fields having a field synchronization segment (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25) referenced by Sync Byte 1 and Sync Byte 2, followed by at least a plurality of first modified frame structure data segments (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25) referenced by "Data1 Subfield + VFO Field 2" and field "Data2 Subfield", that is less than the plurality of initial frame structure data segments (Figure 4, col. 8 lines 17-31) referenced by the redundant sync block field 62 which is provided within the data field

16 thereby splitting the data field thus the plurality of data segments is less than the initial frame structure data segments.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of nonadjacent redundancy synchronization bytes of Malone Sr. to the HDTV equalization reference signal of Lee for the purpose of providing a manner of protecting against the corruption of a sync byte to ensure proper retrieval of user data as suggested by Malone Sr. (col. 3 lines 56-59).

Claim 2, Lee teaches a VSB frame structure for a HDTV. Lee does not teach a second modified frame structure containing data segments that is less than the plurality of a first modified frame structure data segments.

Malone Sr. teaches a second modified frame structure containing at least two fields (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25) referenced by the field "Sync Byte 1 + Data1 Subfield" and field "Sync Byte 2 + Data2 Subfield", each of said fields having a field synchronization segment (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25) referenced by Sync Byte 1 and Sync Byte 2, followed by at least a plurality of second modified frame structure data segments that is less than the plurality of the first modified frame structure data segments (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25, col. 8 lines 17-31) referenced by "Data1 Subfield" and field "Data2 Subfield" which is less than the first modified frame data structure in that the optional VFO field 2 is deleted.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of nonadjacent redundancy synchronization bytes

of Malone Sr. to the HDTV equalization reference signal of Lee for the purpose of providing a manner of protecting against the corruption of a sync byte to ensure proper retrieval of user data as suggested by Malone Sr. (col. 3 lines 56-59).

Claim 11, Lee teaches wherein the wireless data signals are digital television signals (Figure 1, col. 1 lines 5-30) referenced by the GA-HDTV receiver receiving signals for High Definition Television.

Claims 12, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Limberg et al. (Patent No. 6118495) in view of McKenney et al. (Patent No. 4396944).

Claim 12, Limberg teaches a method for utilizing an enhanced frame structure for broadcast of wireless data signals (Figure 1A, col. 5 lines 31-38, Figure 2A, col. 5 lines 39-43) referenced by the Data Field Synchronization signals used for transmission/reception of Digital Television signals by the television reception apparatus wirelessly via the antenna 1, comprising selecting an appropriate training sequence signal mode of the enhanced frame structure selected from the group consisting of a mode for an initial frame structure (col. 3 lines 10-24) referenced by the training sequence or Ghost Cancellation Reference signal in the initial line of each data field in an ATSC standard DTV, and a mode for a first or more modified frame

structures (Figure 2A, Figure 2B, Figure 2C, col. 13 lines 32-67, col. 14 lines 1-51) referenced by Ghost Cancellation Reference signal which is enhanced through modification in figures 2A-2C which are consecutively numbered modulo-2 to increase the correlated energy of the GCR signal, programming a system (Figure 1, col. 15 lines 36-56, Figure 2C) referenced by the Computer for Ghost-Cancellation Filter Coefficients 14 programmed to convolve a PN63 match filter with the separated GCR signal 54, for broadcasting said signals with said selected training sequence signal mode (col. 2 lines 3-45) referenced by the corresponding system transmission of DTV signals by VSB AM modulation, operating said system to broadcast said signals (col. 2 lines 3-45) referenced by the corresponding system transmission of DTV signals by VSB AM modulation. Limberg does not teach conducting a site survey and adjusting the training sequence signal mode according to the results of the field test.

McKenney teaches conducting a site survey of the area to receive signals (col. 1 lines 8-20, col. 3 lines 56-63) referenced by the underwater inspection surveys to measure object size, conducting a field test (Figure 5, Figure 7, col. 6 lines 46-60) referenced by the development of grid data base listings into memory, adjusting the training sequence signal mode according to the results of the field test (Figure 7, col. 6 lines 46-67, col. 7 lines 1-11) referenced by the selection of grid database memories based on the television eye position.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate video image size method of McKenney to the DTV training signal of Limberg for the purpose of providing a measurement of the size of an object



displayed on a video display which allows an operator to directly determine the size of the displayed object as suggested by McKenney (col. 1 lines 57-63).

Claim 13, Limberg teaches wherein the step of selecting an appropriate training sequence signal mode (col. 3 lines 10-24) referenced by the training sequence or Ghost Cancellation Reference signal in the initial line of each data field an an ATSC standard DTV, results in a digital television transmission (col. 3 lines 10-24) referenced by the ATSC standard Digital TeleVision transmission training signal, having an enhanced frame structure that comprises at least two fields (Figure 2A, Figure 2B, col. 5 lines 39-43, col. 13 lines 32-64) referenced by the Data Segment Sync 31 followed by the PN codes + initial Data Field F1 and the Data Segment Syncd 41 followed by the PN codes + final Data Field F0, each of said fields having a field synchronization segment containing a training sequence signal (Figure 2A, Figure 2B, col. 5 lines 39-43, col. 13 lines 32-64) referenced by the Data Segment Sync 31 and Data Segment Sync 41, followed by a plurality of modified frame structure data segments (Figure 2A, Figure 2B, col. 5 lines 39-43, col. 13 lines 32-64) referenced by the PN codes and Data Fields which are modified from the ATSC standard, that are less in quantity than a plurality of frame structure data segments of the initial frame structure (Figure 2C, col. 14 lines 30-51) referenced by the PN63 sequence 54 which is less in quantity than the combined triple PN63 sequences 33 34 35.

Claim 15, Limberg teaches wherein the wireless data signals are digital television signals (col. 3 lines 10-24, Figure 2A, col. 5 lines 39-43) referenced by the Data Field Synchronization signals of Digital TeleVison transmissions.

Claims 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird et al. (Patent No. 5355161) in view of Malone Sr. et al. (Patent No. US 6181497).

Claim 16, Bird teaches a method for utilizing an enhanced frame structure for the broadcast of wireless data signals (Abstract lines 1-23, Figure 1, col. 4 lines 26-43, Figure 8, col. 16 lines 46-60) referenced by the Broadcast transmitter 30 transmitting an encoded data fields of television data, comprising programming a system to deliver the wireless data signals in an initial transmission mode (Figure 1, col. 4 lines 26-43, lines 66-67, col. 5 lines 1-18, Figure 8, col. 16 lines 46-60) referenced by the Broadcaster 22 play back and broadcast of an encoded program segment in an encoded data frame format, operating said system (col. 2 lines 47-59) referenced by the use of the system to generate one or more encoded data frames, collecting feedback from the system (Figure 3, col. 8 lines 31-58) referenced by the Demodulator and Decoder 106 generating feedback control signals for the Tuner 86, and adjusting the initial transmission mode according to said feedback to alter the frame structure to an enhanced frame structure (Figure 3, col. 8 lines 31-58) referenced by the feedback

adjustment of a gain control signal to adjustment of the received signal to a standard value. Bird does not teach altering the frame structure to an enhanced frame structure wherein a plurality of frame structure data segments is less than a plurality of frame structure data segments of the initial transmission mode.

Malone Sr. teaches to alter the frame structure to an enhanced frame structure wherein a plurality of frame structure data segments of the enhanced mode is less than a plurality of frame structure data segments of the initial transmission mode (Figure 4, col. 4 lines 27-32, col. 5 lines 23-25, col. 8 lines 17-31) referenced by "Data1 Subfield" and field "Data2 Subfield" which is less than the first modified frame data structure in that the optional VFO field 2 is deleted.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of nonadjacent redundancy synchronization bytes of Malone Sr. to the broadcast program segment system of Bird for the purpose of providing a redundant sync byte or group of sync bytes in a data sector at a distance sufficient to isolate the redundant sync bytes from the primary sync bytes in the event of multiple byte defects as suggested by Malone Sr. (col. 3 lines 66-67, col 4 lines 1-7).

Claim 17, Bird teaches wherein the wireless data signals are digital television signals (col. 2 lines 47-59, Figure 8, col. 16 lines 46-60) referenced by the encoded program segment broadcast by television wherein the format is in digital bits.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bird and Malone Sr. as applied to claims 16, 17 above, and further in view of Garner (Patent No. US 6542739).

Claim 19, Bird teaches wherein the adjusting step is performed by selecting an option from the group consisting of by the system self-adjusting to automatic feedback (Figure 3, col. 8 lines 31-58) referenced by the feedback adjustment of a gain control signal to adjustment of the received signal to a standard value. Bird and Malone Sr. do not teach an adjusting step is performed manually by system operators selecting a new mode. Garner teach an adjusting step is performed manually by system operators selecting a new mode (col. 2 lines 66-67, col. 3 lines 1-12, col. 5 lines 31-41) referenced by the operator determining the customized services and operation of the Feederlink Earth Stations which are broadcast data links and are operated through Man-Machine Interface equipment.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the service system using a central controller of Garner to the broadcast program segment system of Bird and Malone Sr. for the purpose of providing a priority and preemption method for performing a priority process of satisfying a resource acquisition request as suggested by Garner (Abstract lines 1-9).

***Allowable Subject Matter***

5. Claims 14, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L. Shew whose telephone number is 571-272-3137. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2664

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js

A handwritten signature in black ink, appearing to be 'Ajit Patel'.

**Ajit Patel**  
**Primary Examiner**